

Cracklin' Static

December 2017 Edition



Breakfast Meeting – Sat, Jan 6th

Boomtown Casino Hotel
Events Center
I-80 at Exit 4 in Verdi

Breakfast Buffet – 7:30am - \$12
General Meeting – 8:00am

Featured Presentation

Overview of SNARS upcoming events
and programs for 2018

SNARS NOON NET – Weekdays

12:00PM - SNARS Linked Systems
<http://snars.org/nets>

SNARS NET on DMR – Tuesday 8pm

DMR Talk Group: 31328 SNARS

SNARS Treasury – Ending Dec 31

Checking:	\$5,544.60
Savings:	\$5,301.64
PayPal:	\$3,653.07
Self-Insurance:	\$610.03
Convention Fund:	\$8624.00
Total	\$23,733.34

SNARS Membership – ending Dec 31

Technician:	123
General:	99
Advanced:	19
Extra:	114

SNARS Members	357
ARRL Members	235

President's Voice



President Anthony Marcin, W7XM

Email: w7xm@snars.org | Telegram: @w7xm_nv

Happy New Year! SNARS will have a fairly active 2018 and will be looking for volunteers to help!

SNARS will begin a monthly Ham Radio Night at the REOC starting January 3rd, 2018 at 6:00pm. These

will be held the 1st Wednesday of each month. This month we will focus on the AnyTone D868UV DMR dual band Radio. We will go over how to use the radio, program the radio and answer questions along with helping to upgrade radios with the latest firmware.

SNARS Activities presently scheduled for 2018 are:

- NVCON 2018—Next meeting Jan 24, 2018 at 6:00PM—REOC
- HF Radio 101—TBA—Overview of HF Radio, Getting on the air using the FT 450D Radios and hands on workshop
- Ham Radio Night at the REOC—6pm 1st Wednesday each month
- Field Day 2018 at Washoe Lake State Park—las Weekend of June
- Nevada QSO Party—SNARS will reboot this yearly event scheduled for October.
- Reno Ham Swaps—1st Weekend of May and third Weekend of September
- SNARS Meet ups—Carson City—3rd Wednesdays Odd Months, Reno—3rd Wednesdays Even Months—6:00PM
- Ham Radio in the Park—Another opportunity for those wishing to learn HF Radio. TBA.
- Our Monthly SNARS Breakfast Meetings—1st Saturday each month at Boomtown Casino Hotel at 7:30am.

If you are interested in volunteering for any of these activities please contact myself at w7xm@snars.org.

Also excited to announce the Eagle Ridge DMR Repeater is now online. Thank you again to Dave Metts, K7UI for the equipment and installing the repeater. This will provide handheld coverage to the Fallon, Dayton and Fernley areas.



PO BOX 7727 Reno NV 89510
 Yearly Dues: \$40.00 Individual • \$50.00 Family
 775.453.4142 <http://snars.org>

2017 Officers

President.....Anthony Marcin, W7XM
 Vice-President.....Jim Shepherd, W6US
 Treasurer.....Bill Jones, AE7OX
 Secretary.....Rob Dunbar, NB6C
 DirectorWes Vick, KG7QXE
 DirectorJohn Byerly, N7ROJ
 DirectorBarry Bettman, K6ST

2017 Staff

Cracklin StaticHowie Holden, WB2AWQ
 W7TA TrusteePeter DeBay, KE7VSR
 KR7ENO Trustee.....Howie Holden, WB2AWQ
 Control OperatorPat Sheehan, W7DED
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 PIOVacant
 VE Coordinator.....Bill Nichols, NN7K
 Meeting GreeterBill Jones, AE7OX
 Noon Net ManagerWes Vick, KG7QXE
 DMR Net ManagerAnthony Marcin, W7XM
 Reno Ham Swap.....Rob Dunbar, NB6C
 WebmasterAnthony Marcin, W7XM

Cracklin Static Publication

Editor: Howie Holden - holden7471@msn.com

Cracklin' Static is the Newsletter of, and sponsored by the Sierra Nevada Amateur Radio Society. Opinions expressed herein are those of the editors and contributors and should not be considered as official expressions of the Club Officers, Staff or Club Members, or as endorsements by same.

Material for publication may be edited to enhance readability or to save space. We reserve the right to use whatever font size or line spacing may be required to publish this Newsletter. **Deadline for input to the newsletter is 1500 hours on the Sunday** prior to the 1st Saturday of each month.

SNARS Wide Area Linked System

147.030 + PL 123.0	Sparks, Fernley, Fallon	Online
147.210 + PL 100.0	Reno, Sparks	Online
147.150 + PL 123.0	Lake Tahoe, Truckee, Carson	Online
146.925 - PL 123.0	Lovelock, Fallon	Online
146.670 - PL 123.0	Winnemucca	Online
444.875 + PL 100.0	Yerington	Online
444.125 + PL 123.0	Reno Sparks	Offline

DMR Systems

444.925 + CC 1	Reno, Sparks	Online
444.825 + CC 1	Dayton, Fallon, Carson	Online
443.925 + CC 1	Lake Tahoe, Truckee, Carson	Online
443.950 + CC 1	Incline Village	Online
442.875 + CC 1	Sparks, Fernley, Fallon	Online
442.850 + CC 1	Downtown Reno	Online
441.950 + CC 1	Fallon, Fernley	Online

Fusion Systems

146.610 - PL 123.0	Reno, Carson, Dayton	Online
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IRLP / EchoLink Systems

147.300 + PL 123.0	Reno, Sparks	Online
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Packet / APRS

145.050 - RNO	Reno, Carson, Dayton	Online
145.050 - ROSE	Lake Tahoe, Truckee, Carson	Online
144.390 - TOULON	Lovelock, Fallon	Online

Standalone Systems

147.390 + PL 100.0	Reno, Carson, Dayton	Online
443.075 + PL 123.0	Reno, Carson, Dayton	Online
927.0875 + PL 114.8	Reno, Carson, Dayton	Online



Online



Offline



Not Linked

Thank you to our Sponsors/Supporters



Weekday on the SNARS Linked System

147.030 + PL 123 – Sparks/Fernley
 147.150 + PL123.0 – Lake Tahoe / Truckee
 147.210 + PL 100.0 - Reno
 444.875 + PL 100.0 - Yerington
 146.925 - 123.0 – Lovelock / Fallon
 146.67 – PL 123.0 - Winnemucca

Monday through Friday @ 12:00pm

Open to all amateur radio operators. A general informational net for the amateur radio community of Northern Nevada and Eastern California. Radio Checks and Questions are welcomed.

Nets on the SNARS Linked Systems

147.210 + 100.0 | 147.030 + 123.0 | 147.150 + 123.0
 147.670 – 123.0 | 146.925 – 123.0 | 444.875 + 100.0

Bishops Storehouse Net	Monday @ 9:15pm
N. Western NV ARES Net	Monday at 7:00pm
Northern Nevada Preppers Net	Wednesday @ 8:00PM
Hospital Net	Friday @ 10:00AM

Nets on IRLP (GSR) System

Repeater: 147.300 + 123.0

Amateur Radio Newsline	Monday - 8:00PM
Nevada Skywarn Net	Wednesday - 7:00pm
Nevada State ARES Net	Thursday - 7:00PM

Nets on Simplex/HF

Jefferson Noon Net	7.204 LSB	Daily - 12:00pm
6 Meter Net	50.350 USB	Tuesday – 8:00pm
2 Meter Week Signal	144.250 USB	Wednesday - 8:00PM
2 Meter Simplex Net	146.500 FM	Thursday – 8:00PM
10 Meter Net	28.350 USB	Sunday – 2:00PM

**SNARS Weekly DMR Net – Tuesdays
 8:00PM**

SNARS Talk Group 31328

Open to Members and Guests. A general information net each week on DMR.

SNARS CALENDAR

SNARS Board of Directors Mtg Wed, Jan 10, 6pm – 7pm

QCWA Nevada Chapter

Sat, January 13, 2018, 11 AM – 12 Noon

Famous Dave's Bar-B-Que, 4925 Kietzke Ln, Reno

Carson City SNARS Meetup 6 PM, Jan 17, 2018

Black Bear Diner, Max Casino Carson City

NVCON Planning Meeting January 24, 6 PM

Washoe County REOC, 5195 Spectrum Blvd Reno, NV

Next SNARS Breakfast Meeting – Sat, Feb 3, 8 AM

Boomtown Casino Hotel Events Center

I-80 at Exit 4 in Verdi

WELCOME NEW MEMBERS

DECEMBER, 2017

John Elswick	KI7PPO
Blake Sobiloff	N6BNS
Raina Tapp	KI7SGF
Kenneth Freeman	KI7SLL
Edward Goldberg	KE7EAA
Gershon Negev	KI7SSQ
Timothy Allen	KI7JMR

THE NAME OF THE GAME

Jim Shepherd, W6US | nvjims@gmail.com

THE NEWEST DIGITAL MODE – FT8

Launched in July, this mode has taken the HF world by storm... Using the same bandwidth as a SSB signal, it can host 25 or more QSOs at the same time. Most of the signals are below the noise level and only the strongest are heard on your speaker. It takes under 2 minutes to make a valid contact on average if you don't have to repeat parts of your exchange. It is more like a contest exchange rather than a conversational mode.

The first thing to do is to download the free software for Windows, Mac, or several distributions of Linux from <http://physics.princeton.edu/pulsar/K1JT/wsjsx.html>. After installing it, read the documentation at <http://physics.princeton.edu/pulsar/K1JT/wsjsx-doc/wsjsx-main-1.8.0.html>. Interfacing it to your radio may be as simple as connecting a USB cable or for slightly older radios, using an interface like the Rig Blaster or Signallinc controllers. There is a lot of good information on how to setup your particular radio in the documentation. Using reduced power and a dummy load, you need to set up the levels and other parameters to have a clean signal.

Start the program and the first time you should be taken to a configuration screen where you will enter your grid zone, call, and the parameters for your computer to talk to your radio. When you complete and save the config, then under the 'MODE' tab select FT8. You should see a scrolling waterfall display in one window and a main entry window in the other. Click on the small frequency display on the left side of the window and select the 40M (7.074 MHz) frequency. If your radio has full computer control (CAT) it should switch to that frequency, if not, set your radio to it. Check to make sure the program will key your radio.

Set your radio's mode to USB and turn off any processor or audio shaping on your transmitted signal. AGC controls vary between radios, on most, you need to set the transmit audio to just below where the AGC kicks in. On some radios, notably the Elecraft, you need to set the signal to the middle of the AGC range—4 bars with the 5th flashing on and off. The 'TUNE' button on the WSJTx screen will give you a good signal to test. You may need to adjust the audio level coming out of the sound card to get a good signal.

Now, connect your radio to your antenna. After a 15 second cycle or two, you should see some decoded signals in the left side of the main window. If you are not seeing decodes and you are seeing signals on the waterfall, your computer clock may be off... Your operating system may synchronize within a few seconds, but you need to do better than that. Programs like Dimension 4 (<http://www.thinkman.com/dimension4/>) and Meinberg NTS (<https://www.meinbergglobal.com/english/sw/ntp.htm>) can set your clock within a couple of tenths of a second automatically. There is also a program called Time Fudge (<https://www.dropbox.com/s/utl1mqzwizrs1kn/TimeFudgeSetup.exe?dl=1>) that will let you manually set the clock. You should see the 'DT' column in the range of -1.0 to +1.0. When you are getting good decodes, you will see some are calling CQ and may be high-

lighted in different colors.

You are just about ready to make your first contact.... In the middle of the main box, click the 'Auto Seq' box and the 'Hold Tx Freq'. Make sure the 'Call 1st' box is not checked. Then look at the waterfall screen. You will see some vertical spaces where there are no signals. Move your cursor on the top line of the waterfall, 'ctrl-click' and you will see a little red line appear above that spot. You can fudge it back and forth using the TX scroll box in the middle of the main window, and try to center it over the vertical space without signals. That is a clear frequency for you to transmit at your location. Now, wait for the next CQ to pop up and double click anywhere on that line. You should see that you are transmitting, and the little green line above the waterfall has automatically centered over the column of the signal that was sending the CQ. You will also see their call in the right half of the main screen.

When your radio finishes transmitting, it will listen for 13 seconds, then the 'Decode' button will flash and a new set of decodes will scroll up. Hopefully, one of them will be red colored meaning that the CQ'ing station has called you back. Whatever the response, the decode from that station will appear on the right side. It may be another CQ, and by the time you notice it, your transmitter will be responding... If it is red, you will now be sending a signal report, and if it is the green CQ you will be sending their callsign, your callsign and your grid. It may also show that they have answered someone else, and in that case immediately click on the 'Halt TX' button so you do not cause interference.

If they did answer you, the computer will take over (auto sequence) and send the signal report and then 'RRR' (Rodger, Rodger, Rodger) and finally 73. At this point, if you check 'remind logging' in the config file, a screen will pop up reminding you to log the contact. You can later upload that file to your LOTW account or another logging program. It will also remember that you contacted that station before and let you know by causing their CQ message on the left side of the window to turn green instead of light purple. Dark purple stations indicate DXCC countries calling CQ that you haven't worked yet on FT8, a handy way to increase your DX count!

No answer? Go ahead and double click on another CQ'ing station! The more you work, the easier it gets as you will learn new skills. You will be amazed what you can work on 5 watts with a good antenna, or with 50 on a compromised system. You can also call CQ but be ready to double click on the red decodes that are stations responding to your CQ.

You will quickly catch on how to operate this mode. There are other tricks to learn, and if you are having problems, re-read the documentation. There are a number of hams in the area that are using this mode so you should be able to get some local help. Get on the air and have fun!

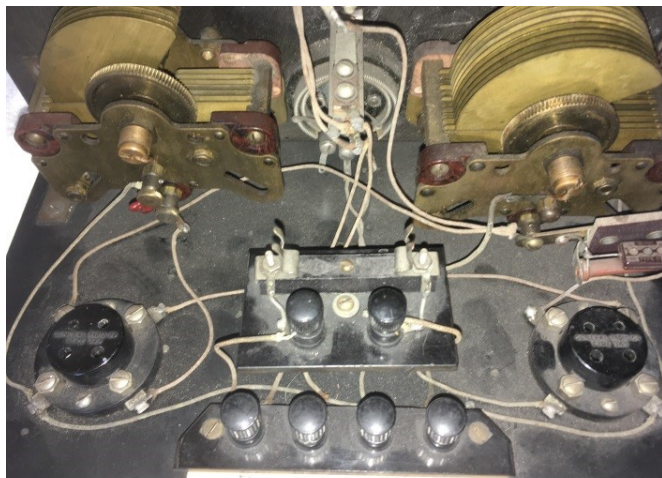
WHATTIZZIT?

Strange stuff occasionally follows me home from hamfests. About 12 years ago, back in New Jersey, the radio pictured below was one such artifact.



Not exactly your modern-day table radio.....

This was obviously a radio, although it had no label or identifying marks. And for a mere pittance (\$15) I couldn't say no, despite having no idea of what to do with it, much less why I bought it!!



Insides of the radio, simple, few components.

Inside was a mostly intact one tube circuit, missing only the tube, a plug-in coil, and a clip-in RF choke. By tracing out the wiring, I deduced it was a regenerative set, and I identified the specific style of regenerative circuit used, guided by the receiver section in a 1932 ARRL Radio Amateur's Handbook. This design uses a variable capacitor to control regeneration, often called a "throttle" capacitor. Early regen radios required manipulating both the tuning dial and the regen control for best reception, especially with a large change in frequency.

While I don't know its manufacturer, I am guessing, by the components and hardware used, especially the matching tuning and throttle capacitors, and the professional manner in which holes, for example, are placed, drilled and tapped, offset by crude solder joints, that this radio was a kit, a popular way of getting into radio back in the early 1900s. Early radio catalogs are filled with radio kits, each one hawked as being the "last word" in radio reception. I date this radio as 1925ish, by the style of tube socket and because the one tube kits were almost non-existent in most catalogs after about 1929.

I have a number of suitable tubes, (a UX201A here), fashioned a coil for the broadcast band, and found a suitable choke. I also have several older headphones, including a Brandes Matched-Tone Superior model from about 1920, and a Baldwin Type C, produced exclusively for the US Army in WW1.



Added the plug-in coil (L), choke (ctr) and tube (R)

Other than installing my components, working the tube and coil in and out of their sockets to clean the socket contacts, hooking up a power supply, phones and a short antenna and ground connection (all radios of this era required an external antenna), I did nothing to this radio, and eureka, it plays! Most local AM stations, and some DX, come in usually at decent volume. This kind of radio requires tuning both the main tuning dial and the regeneration control, but that's not difficult to do.



Radio with power supply, added parts, and Brandes phones

Radios like this were the first one for many a budding Ham. You can be sure that making contacts, even just a few hundred miles away, was a challenge. Zero-beating a signal, easy on modern-day rigs, is all but impossible on this kind of radio, and often hams guessed about the approximate frequency they were on. Tuning around to see if anyone was calling you after a CQ was the norm. While a radio like this can be fairly sensitive, it lacks selectivity, so an operator had to rely on the equipment between his or her ears to make things work.

I'm going to try making a coil for 80 and/or 40, and see if I can manage a few QSOs with this thing. YaeComWoods and K3s, etc., make radio an easy game, but for me they also take some of the fun out of it.

I may bring this to breakfast Saturday if anyone would like to take a peek, or a whack at tuning it. And if anyone has an idea of its manufacturer, I'd sure like to know! **WB2AWQ**

SNARS LOGO ITEMS

This year we are celebrating our 50th year by providing many ways to commemorate this occasion by imprinted our 50th



Stickers \$1.00 Each



16oz Coffee Mugs \$8.00



Hats \$10.00



Club Badge \$15.00

Order at
<http://snars.org/store/badge-order>

Items are available at the monthly meetings, events or online (coming soon) <http://snars.org/store>

MIKE'S MISSIVES CHAPTER THIRTY TWO

Mike Katz, N7MSK

PART 97 – Changing locations

Over time you may move to another state and find that the number in your call sign no longer matches the district of your current residence. Not a problem. You have the option of keeping your call sign even though you have changed districts, and many amateurs choose to do just that. At one time you were required to turn in your old call sign for a new one that matched your current district, but the FCC dropped this rule in the 1970s.

* * * * *

NAME THAT RIG



(answer on page 8)

FUN STUFF FOR JANUARY

Looking for some excitement on the bands during January?
There's something for everyone on the air!

The contests in **bold** may qualify for the ARRL club contest competition.

3 Jan 2300 to 7 Jan 2300 1.8-7 AWA Linc Cundall Memorial CW Contest www.antiquewireless.org

6 1800 6 2359 3.5-28, 144 repeaters Kids Day Ph www.arrl.org/kids-day

6 Jan 1800 to 7 Jan 2359 3.5-28 ARRL RTTY Roundup www.arrl.org/rtty-roundup

13 Jan 1800 to 14 Jan 0559 1.8-28 North American QSO Party, CW www.ncjweb.com

20 Jan 1800 to 21 Jan 0559 1.8-28 North American QSO Party, SSB www.ncjweb.com

20 Jan 1900 to 22 Jan 0359 50 and up ARRL January VHF Contest CW Ph www.arrl.org/january-vhf

21 Jan 1300 to 24 Jan 0800 1.8-144 Classic Exchange, CW www.classicexchange.org

26 Jan 2200 to 28 Jan 2200 1.8 CQ 160-Meter Contest, CW www.cq160.com/rules.htm

27 Jan 1900 to 28 Jan 1900 All Winter Field Day CW Ph Dig www.winterfeldday.com/rules

For a full list of contests, see:

<http://www.arrl.org/files/file/Contest%20Corral/2018/January%202018%20Corral.pdf>

If you're not into contests, there's always DX to chase, and January has tons of good ones! Some of the better DX operations coming up in January:

Jan 01 to Jan 06 Qatar **A70X**

Jan 01 to Jan 31 So Shetland Is **RI50ANO**

Jan 02 to Jan 14 Bhutan **A52PD**

Jan 03 to Jan 16 Somalia **6O6O**

Jan 08 to Jan 22 Burkina Faso **XT2AW**

Jan 09 to Jan 17 Vanuatu **YJ0CA**

Jan 09 to Jan 23 Laos **XW4FB**

Jan 14 to Jan 23 Eritrea **E31A**

Jan 23 to Jan 30 Thailand **HS0ZEG**

Jan 25 to Mar 14 Bouvet I **3Y0Z**

Jan 27 to Jan 31 Palau **T88PB**

Jan 28 to Feb10 Comoros **D68I**

Visit <http://www.ng3k.com/Misc/adxo.html> for current info and full lists!

ARES NEWS

EMCOMM LEVEL 1 CERTIFICATION COURSE

Doug Abramson : Instructor

1 What

- EmComm Level I certification Course
- ARRL EC-001 Course
- Taught in a classroom environment, not online

2 Where

- Washoe County Regional Emergency Operations Center
- [5195 Spectrum Blvd](#)
- Dandini / Parr Blvd
 - Turn East off of the Off Ramps
 - Turn north in the round-about

3 When

- Starting January 2018, second week
- This is a 10 to 12 week course
- Day of week is chosen by students popular vote

4 Who

- All new members of the Washoe County Amateur Radio Emergency Services (ARES) organization
- Open to neighboring counties
- Any new ham recently licensed

5 Why

- This course covers the “how” to work ARES operations
- This is a required course for WC ARES volunteers

6 How

- One class per week
- Each session is three hours in duration
- Three topics covered per each class session

7 Topic Coverage

- Introduction to Emergency Communication
- Amateurs as Professionals
- Emergency Communication Organizations and Systems
- Served Agency Communication Systems
- Working Directly with the Public
- Basic Communication Skills
- Introduction to Emergency Nets
- Net Operating Guidelines
- Introduction to the National Traffic System

- Basic Message Handling
 - Preparing for Deployment
 - Emergency Activation
 - Safety & Survival
 - What to Expect in Large Scale Disasters
 - Marine Communications
 - And much more

8 Cost

- Figure on \$50 - \$75
- Cost is dependent upon students approach to the projects
- Two projects focused on getting you ready for ARES operations

9 Contact

- Doug Abramson
- [3983 S McCarran Blvd #151](#)
- [Reno, NV. 89502](#)
- ka7foo@gmail.com
- [775-225-5679](tel:775-225-5679)

10 Further Details

- After contacting me I will send to you a more detailed document regarding this certification course

NAME THAT RIG

(from pg 7)

This is a test for anyone who thinks they can name earlier **Heath** transmitter models. If you are familiar with Heath you will quickly recognize it's either a **DX-20, DX-35, or DX-40** transmitter, all similar looking. All three covered the 80 through 10 meter bands, but the DX-20 ran only CW while the -35 and -40 also had phone capability. Sharp eyes will see by the general panel layout it's not a DX-20. So is it a DX-35 or DX-40?? From the front panel, the clues are the meter, and the function switch. The DX-40 has a totally clear meter cover, while the DX-35 has an older style meter with a black bezel around the cover. The DX-40 function switch has five positions, while the DX-35 has only four. **This is a DX-40.** Not visible from the outside photo is the difference in tube lineups, and a slight increase in power for the DX-40 even though they share the same final amplifier. The DX-35 was rated at 65W CW, 50W phone, while the DX-40 was 75W CW and 60W phone, all due to a difference in power supplies. These transmitters were popular in the 50s and 60s. They were inexpensive, relatively easy to assemble, and Heath had a superb technical assistance department. Many of all three plus the immensely popular DX-60 (totally different in all respects) are around today, still plugging away.

EDITOR'S NOTE:

There was no SNARS Board meeting in December, thus there are no minutes for publication.

Have a safe and healthy New Year, and see you Saturday AM!

//HH